Extron® Electronics
INTERFACING, SWITCHING AND DISTRIBUTION

User's Manual

YCS SW6 MX
Y/C Separator Switcher

68-314-01
Printed in the USA

Precautions

Safety Instructions • English

⚠ This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

⚡ This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français

⚠ Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).

⚡ Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conserver les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch

⚠ Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

⚡ Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español

⚠ Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.

⚡ Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de le contourner ni de le désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'Il y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:	Europe, Africa, and the Middle East:
Extron Electronics 1230 South Lewis Street Anaheim, CA 92805, USA	Extron Electronics, Europe Beeldschermweg 6C 3821 AH Amersfoort The Netherlands
Asia:	**Japan:**
Extron Electronics, Asia 135 Joo Seng Road, #04-01 PM Industrial Bldg. Singapore 368363	Extron Electronics, Japan Daisan DMJ Bldg. 6F, 3-9-1 Kudan Minami Chiyoda-ku, Tokyo 102-0074 Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

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YCS SW6 MX

Chapter One

Introduction

Features

Introduction

The Extron YCS SW6 MX is a video decoder/encoder/switcher with both composite and S-video outputs. It separates input composite video signals into their YC (luminance and chrominance) components (S-video), or it combines input S-video YC signals into composite video format. Both formats are available for output regardless of the selected input type. Six switchable inputs are available. Inputs 1 – 4 use either BNC or mini-DIN connectors for either composite video or S-video. Inputs 5 and 6 use BNC connectors for composite video.

Switching occurs during the vertical blanking interval of the video signal.

Features

Video formats — The switcher can be configured to operate in either NTSC or PAL mode.

Inputs — Six inputs are provided. Four can be used as either composite video or S-video, and two are dedicated to composite video.

Built-in YC separator — Composite video can be converted to S-video.

Built-in YC combiner — S-video can be converted to composite video.

Dual buffered outputs — Two outputs are provided. One is for composite video, and one is for S-video. These outputs function simultaneously.

Multiple control methods — You can select an input by using any of the following:

- Front panel control buttons
- Extron's control program for Windows
- RS-232 command using Extron's Simple Instruction Set™ (SIS™)
- Third-party contact closure remote control
- Infrared remote control

Power supply — The switcher includes a 100VAC to 240VAC, 50/60 Hz, internal, auto-switchable power supply.

Rack mountable — The switcher can be rack mounted on one side of an optional 1U rack shelf (Extron part number 60-190-01).

YCS SW6 MX

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Chapter Two

Installation and Operation

Installation

Operation

Installation and Operation
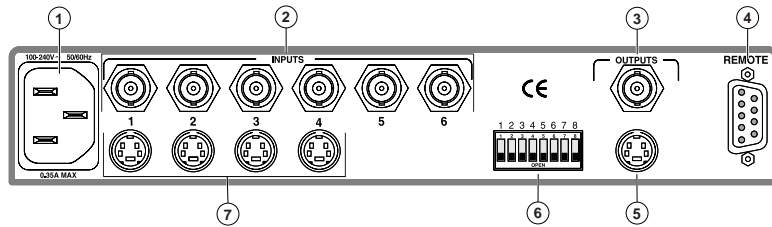
Installation

Rear panel features

Figure 1 — YCS SW6 MX rear panel

①   **AC power connector —** One standard AC power connector attaches the switcher to any power source from 100VAC to 240VAC, operating at 50 or 60 Hz.

②   **Input BNC connectors —** Six BNC female connectors for composite video input devices.

③   **Output BNC connector —** One BNC female connector for a composite video output device.

④   **Remote connector —** One 9-pin D female RS-232 connector that allows you to attach a host/computer, contact closure, or infrared remote control device to the switcher.

⑤   **Output 4-pin mini-DIN connector —** One 4-pin mini-DIN female connector for an S-video output device.

⑥   **Switch module —** DIP switch module that selects between composite video and S-video for inputs 1 – 4, and selects between NTSC and PAL.

  1 — Input 1

   Up — Input 1 is composite video.

   Down — Input 1 is S-video.

  2 — Input 2

   Up — Input 2 is composite video.

   Down — Input 2 is S-video.

  3 — Input 3

   Up — Input 3 is composite video.

   Down — Input 3 is S-video.

  4 — Input 4

   Up — Input 4 is composite video.

   Down — Input 4 is S-video.

  5 — Not used

  6 — Not used

  7 — Not used

  8 — Video standard

   Up — Video standard is NTSC.

   Down — Video standard is PAL.

⑦   **Input 4-pin mini-DIN connectors —** Four 4-pin mini-DIN female connectors for S-video input devices.

Installation procedure

To install a YCS SW6 MX switcher, perform the following steps:

1   If desired, mount the switcher in a rack (see "Mounting the switcher", below). Otherwise, install the rubber feet (see "Installing the rubber feet" on page 2-4).

2   Turn off power to the input and output devices ,and unplug the power cables from them.

3   Attach the switcher to the input devices and output devices (see "Cabling" on page 2-4).

4   Set the DIP switches on the switcher (see item 6 on page 2-2).

5   If desired, attach an optional or third-party remote control device (see "Attaching remote control devices" on page 2-5).

6   Plug the switcher, input devices, and output devices into a grounded AC source, and turn on the input and output devices..

7   The image from the selected input device should appear on the output device. If it does not, double-check steps 3 – 5, and make adjustments as needed.

Mounting the switcher

The YCS SW6 MX switcher can be rack mounted on one side of an optional 19", 1U Universal Rack Shelf (Extron part number 60-190-01). To rack mount the switcher, do the following:

1.   If feet were previously installed on the bottom of the switcher, remove them.

2.   Mount the switcher on the rack shelf as shown in figure 2. Attach two 4-40 x 1/8 screws in opposite (diagonal) corners to secure the switcher to the shelf.
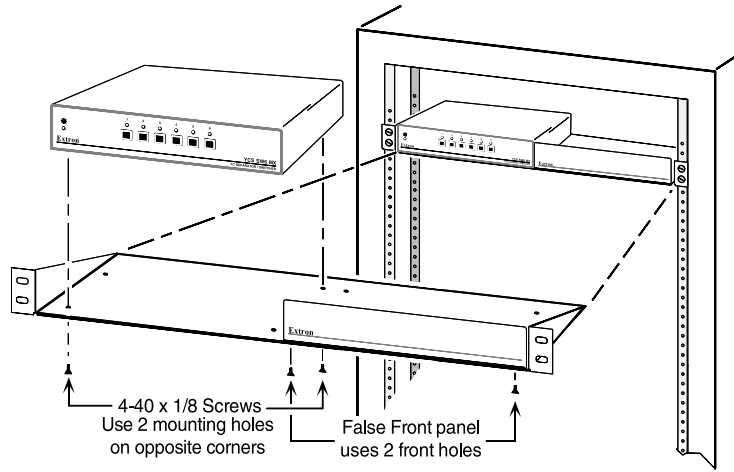
Installation and Operation, cont'd

Figure 2 — Mounting the switcher

3. If a false front panel is required, mount it on the shelf using the front two holes.

Installing the rubber feet

The switcher ships with four uninstalled rubber feet. Install the rubber feet only if you are not rack-mounting the switcher. To install the rubber feet, do the following:

1. Turn the switcher upside down and place it on a flat surface.

2. Remove the protective backing from a rubber foot.

3. Place the rubber foot on one corner of the switcher's bottom surface, and press it into place.

4. Repeat steps 2 and 3 to install a rubber foot on each of the remaining corners of the switcher.

5. Turn the switcher right side up and place it in the desired location.

Cabling the switcher

Use high resolution cable for all video input and output connections. See page A-4 for Extron's high-resolution cables.

To cable the YCS SW6 MX switcher, connect the input and output devices to the switcher using figures 3, 4, and 5 as a guide.
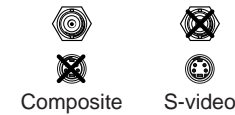

Composite   S-video

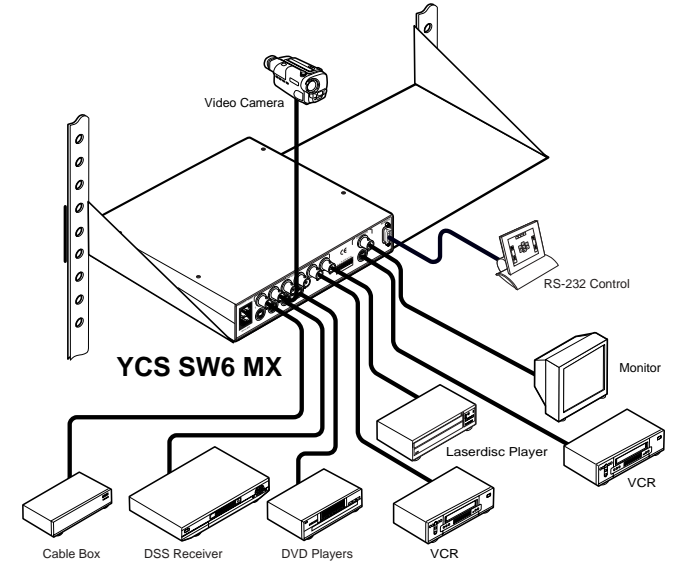**Figure 3 — Input and output cabling**

Figure 4 — YCS SW6 MX application diagram

Figure 5 — Video conferencing application

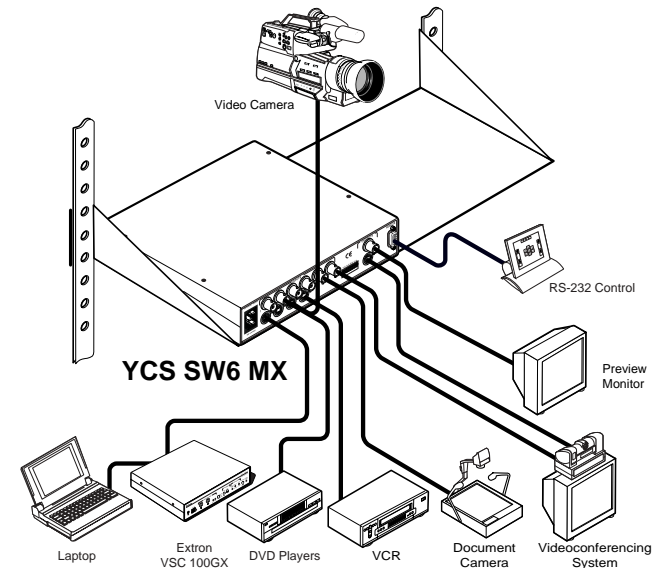# Installation and Operation, cont'd

Attaching remote control devices

The remote connector provides a way to control the switcher by using contact closure devices such as the following:

• Extron's IR 20 infrared remote control (see "Installing an IR 20 infrared remote control" below).

• Remote contact closure (see "Remote Contact Closure Operation" on page 3-6).

• RS-232 port and a host computer (see "Serial Communication" on page 3-2).

Installing an IR 20 infrared remote control

The IR 20 remote control system includes the following components:

• IR 20 remote control (hand-held remote control unit)

• IR detector with 6-foot (1.8 meter) cable and RJ-11 connector

• IR 20 adapter with 3-foot (0.9 meter) cable and RS-232 T connector

• External 9VDC power supply for adapter.

To install an IR 20 infrared remote control, do the following:

1. Attach the 9-pin T plug on the IR 20 adapter to the remote connector on the rear panel of the switcher (figure 6).
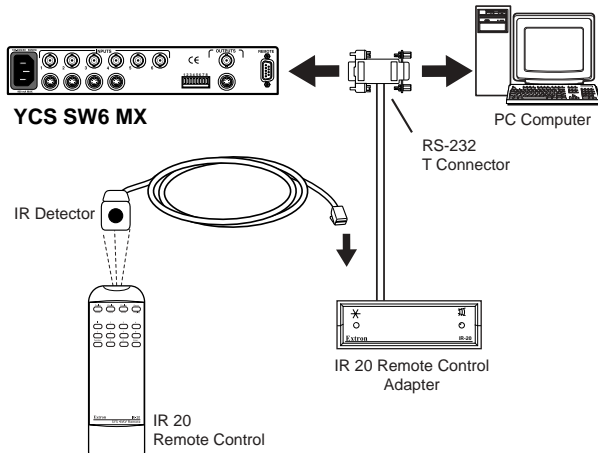
Figure 6 — Installing the IR 20 infrared remote control

2. If a host RS-232 device is also being attached, connect its RS-232 plug to the unused side of the adapter's RS-232 T connector.

3. Plug the IR detector's male plug into the IR 20 adapter's RJ-11 female connector.

4. Connect the 9VDC power supply to the IR 20 adapter.

5. Position the IR detector (limited by its cable length) in the best position to receive infrared light from the IR 20 hand-held remote control.

Operation

Front panel features
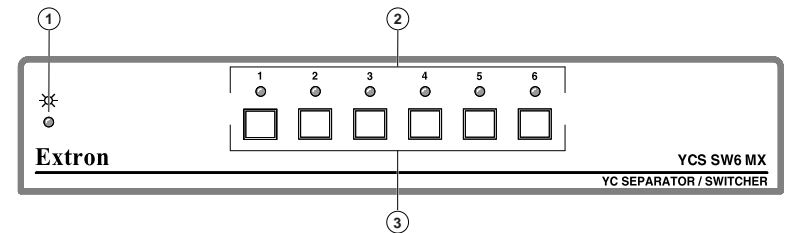
Figure 7 — Front panel features

① **Power LED —** Lights to indicate that power is supplied to the switcher.

② **Input selection LEDs —** Light to indicate the active input.

③ **Input selection buttons —** Allow you to select the input to be displayed.

Selecting an input

The YCS SW6 MX switcher is a video decoder/encoder/switcher with both composite and S-video outputs. It separates composite video into S-video format, or it combines S-video (YC) input signals into composite video format. Both formats are available as outputs, regardless of the selected input type.

To select an input using the front panel buttons, press the button for the desired input. The LED for the selected input turns on.

When a new input is selected, switching does not occur until the next vertical blanking interval of the current input signal. The output is then switched to the new input.

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Chapter 3

Serial Communication

RS-232 Programmer's Guide

Universal SW Control Program

Remote Contact Closure Operation

Serial Communication

The YCS SW6 MX switcher can be controlled by a host computer or other control device via an RS-232 connection with a protocol of 9600 baud, 1 stop bit, no parity, and no flow control. The control device can use either Extron's Simple Instruction Set (SIS) or the graphical control program for Windows.

The rear panel RS-232 9-pin D connector has the following pin assignments:

```
  5       1
 (o  ·····  o)
      ·····
  9       6
DB9 Pin Locations
    Female
```
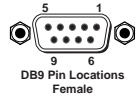
Pin	Description
1	Input #1
2	Transmit data
3	Receive data
4	Input #2
5	Ground
6	Input #3
7	Input #4
8	Input #5
9	Input #6

RS-232 Programmer's Guide

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command sequence. When the switcher determines that a command is valid, it executes the command and sends a response to the host device. All responses from the switcher to the host end with a carriage return and a line feed (CR/LF = ↵), which signals the end of the response character string. A string is one or more characters.

Switcher-initiated messages

When a local event such as an input selection occurs, the switcher responds by sending a message to the host. No response is required from the host. The switcher-initiated messages are listed below (underlined).

(C)COPYRIGHT 1997, EXTRON ELECTRONICS YCS SW6 MX, Vx.xx ↵
The switcher displays the copyright message when it first powers on. Vx.xx is the firmware version number.

Switcher error responses

When the switcher receives a valid SIS command, it executes the command and sends a response to the host device. If the switcher is unable to execute the command because the command is invalid or it contains invalid parameters, the switcher returns an error response to the host. The error response codes and their descriptions are as follows:

E01 — Invalid input channel number (out of range)

E10 — Invalid command

E13 — Invalid value (out of range)

Using the command/response table

The table on page 3-4 lists the commands that the switcher recognizes as valid, the responses that are returned to the host, a description of the command's function or the results of executing the command, and an example of each command. Lower case characters are acceptable in the command field only where indicated.

Symbol definitions are shown at the beginning of the table. An ASCII to HEX conversion table is provided in figure 8.

ASCII to HEX Conversion Table											Esc	1B	CR	0D	LF	0A
	20	!	21	"	22	#	23	$	24	%	25	&	26	'	27
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F
0	30	1	31	2	32	3	33	4	34	5	35	6	36	7	37
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F
@	40	A	41	B	42	C	43	D	44	E	45	F	46	G	47
H	48	I	49	J	4A	K	4B	L	4C	M	4D	N	4E	O	4F
P	50	Q	51	R	52	S	53	T	54	U	55	V	56	W	57
X	58	Y	59	Z	5A	[	5B	\	5C	]	5D	^	5E	_	5F
`	60	a	61	b	62	c	63	d	64	e	65	f	66	g	67
h	68	i	69	j	6A	k	6B	l	6C	m	6D	n	6E	o	6F
p	70	q	71	r	72	s	73	t	74	u	75	v	76	w	77
x	78	y	79	z	7A	{	7B			7C	}	7D	~	7E	DEL	7F

Figure 8 — ASCII-to-HEX conversion table

Symbol definitions

↵ = CR/LF (carriage return/line feed)

• = Space

⊠1 = Input number 0 – 6 (0 = Muted output)

⊠2 = Software version x.xx

⊠3 = Format

  0 = Muted output, 5 = NTSC/composite video,
  6 = NTSC/S-video, 7 = PAL/composite video,
  8 = PAL/S-video

Command/response table

Command description	ASCII	Response
Select input channel		
Select input channel ⊠1	⊠1&	↵C⊠1↵
Example:	5&	↵C5↵
Select input channel ⊠1 (audio)*	⊠1!	↵C⊠1↵
Example:	2!	↵C2↵

* If an audio/video switcher is chained to the RS-232 port of the YCS SW6 MX, use this command to break the audio signal away from the video signal.

Request information

	I/i	↵V⊠1•T⊠3•QVER⊠2•M6↵
Example:	I	↵V2•T6•QVER1.23•M6↵

Current input - input 2, NTSC/S-video; software version = 1.23; and maximum number of inputs = 6.

Request part number

	N/n	↵Nxx-xxx-xx↵
Example:	N	↵N60-224-01↵

Query software version

	Q/q	↵QVER⊠2↵
Example:	Q	↵QVER1.23↵

Universal SW Control Program

The *Universal SW Control Program*, Extron part number 29-031-01, which ships with the YCS SW6 MX switcher, is compatible with Windows 3.1, 3.11, 95/98, and NT. It provides remote control of input selection.

Installing the software

The Universal SW Control Program is contained on a single 3.5" diskette, and it can run from the floppy drive. However, it is usually more convenient to load and run the program from the hard drive.

To install the software from the floppy disk onto the hard drive, run SETUP.EXE from the floppy disk, and follow the instructions that appear on the screen. The program occupies approximately 1 MB (megabyte) of hard disk space.

By default, the Windows installation creates a C:\UNIVSW directory, and it places two icons (Universal Switcher Control Pgm and Universal Switcher Help) into a group or folder named "Extron Electronics".

Using the software

To run the software, do the following:

1. Double-click on the Universal Switcher Control Pgm icon in the Extron Electronics group or folder.
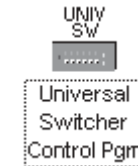
   The Comm menu appears on the screen.

2. Click on the comm port that is connected to the switcher's RS-232 port.

   The Universal SW Control Program window appears (figure 9, on the next page). It displays the current input selection.

3. Using normal Windows controls, you can perform the same adjustments as from the front panel.

Figure 9 — Universal SW Control Program

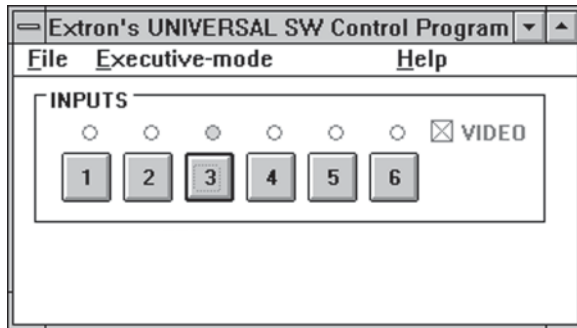For more information about program features, you can access the Help program in any of the following ways:

• From the Extron Electronics program folder or group, double-click on the Universal Switcher Help icon.

Universal
Switcher Help

• From within the Universal SW Control Program, click on the Help menu on the main screen.

• From within the Universal SW Control Program, press the F1 key.

Remote Contact Closure Operation

The RS-232 connector provides a way to control the switcher from a remote contact closure device. This is made possible by using pins that are not normally used by the RS-232 interface. The contact closure pin assignments are shown in the table on page 3-2.

To select a different input number through the RS-232 connector, momentarily short the pin for the desired input number to the signal ground (pin 5). To force one of the inputs to be selected, leave the short to signal ground in place. This overrides any front panel input selection.

NOTE *Momentary contact is 250 – 500 milliseconds.*

WARNING *Avoid contact with pins 2 and 3, which are used with the RS-232 interface. Shorting these pins to ground or to other pins on the RS-232 connector could damage internal circuits.*

YCS SW6 MX

Appendix

Reference Information

Specifications

Part Numbers

Reference Information

Video

Gain .... Unity
Bandwidth .... 30 MHz (-3dB)
Crosstalk .... -60dB @ 3.58 MHz

Video input

Number/signal type .... 4 NTSC/PAL S-video
6 NTSC/PAL composite video
Connectors .... 6 BNC female
4 4-pin mini-DIN female
Impedance .... 75 ohms
Return loss .... -30dB @ 5 MHz

Video output

Number/signal type .... 1 NTSC/PAL S-video and composite video
Connectors .... 1 BNC female
1 4-pin mini-DIN female
Minimum/maximum levels ...... Analog .... 0.3V to 1.5V p-p
Impedance .... 75 ohms
Return loss .... -30dB @ 5 MHz
DC offset .... ±5mV maximum with input at 0 offset
Switching type .... Vertical interval

Sync

Standards .... NTSC, PAL

Control/remote — Y/C separator/switcher

Serial control port .... RS-232, 9-pin D female connector
Baud rate and protocol .... 9600, 8-bit, 1 stop bit, no parity
Serial control pin configurations . 2 = TX, 3 = RX, 5 = GND
IR controller module .... Extron IR 20
Program control .... Extron's control program for Windows®
Extron's Simple Instruction Set™ – SIS™

General

Power .... 100VAC to 240VAC, 50/60 Hz, 12 watts, internal, auto-switchable
Temperature/humidity .... Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing
Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing

Rack mount .... Yes, with optional rack shelf, part #60-190-01
Enclosure type .... Metal
Enclosure dimensions .... 1.75" H x 8.75" W x 9.5" D (1U high, 1/2 rack width)
4.4 cm H x 22.2 cm W x 24.1 cm D (Depth excludes connectors.)
Product weight .... 2.8 lbs (1.3 kg)
Shipping weight .... 5 lbs (2.3 kg)
Vibration .... ISTA/NSTA 1A in carton (International Safe Transit Association)
Listings .... UL, CUL
Compliances .... CE, FCC Class A
MTBF .... 30,000 hours
Warranty .... 3 years parts and labor

NOTE *Specifications are subject to change without notice.*

Part Numbers

Related part numbers

Description	Part number
YCS SW6 MX	60-224-01
1U, 19" universal rack shelf	60-190-01
IR 20 remote control system (US/Canada)	70-036-02
IR 20 remote control system (world)	70-036-03
YCS SW6 MX User's Manual	68-314-01
RCA-6' (1.8 m) RCA male to male cable	26-345-01
BNCM-RCAF adapter	10-264-01

Reference Information, cont'd

Super high resolution cable

Description	Part number
Single conductor	
SHR1-3'	26-383-01
SHR1-6'	26-383-12
SHR1-12'	26-383-07
SHR1-25'	26-383-04
SHR1-50'	26-383-05
SHR1-75'	26-383-06
SHR1-100'	26-383-03
SHR1-150'	26-383-08
SHR1-200'	26-383-09
SHR1-250'	26-383-10
SHR1-300'	26-383-11

S-video cable

Description	Part number
SVHS 6'	26-316-02
SVHS 12'	26-316-03
SVHS 20'	26-316-01
SVHS 30'	26-316-04
SVHS 50'	26-316-05
SVHS 75'	26-316-06
SVHS 100'	26-316-07
SVHSM-BNCF S-video male to two male BNCs, 8"	26-353-01

Reference Information, cont'd